METHOD OF TEST
DETERMINING THE AMOUNT OF SILT IN FINE AGGREGATE
FIELD PROCEDURES FOR LABORATORY TEST METHOD 216

SCOPE

This method of test outlines the procedure for determining the quantity of silt in fine aggregate.

PROCEDURE

A. Apparatus

1. A special 75 µm (No. 200) mesh, 200 mm (8 in.) diameter wash sieve with the sieve cloth conforming to the requirements of AASHTO Designation M 92.

2. A round wash pan of sufficient size to contain the sample covered with water, and to permit vigorous agitation without loss of any part of the sample or water.

3. A balance accurate to within 0.1 percent of the mass of the sample to be tested.

4. Oven or hot plate

B. Sample

1. Select the sample by the method outlined in Matls. I.M. 302, "Test for the Sieve Analysis of Fine Aggregate."

2. Select a representative sample sufficient to yield not less than the following weights of dried materials:

   a. Fine sand, 95% or more passing the 2.36 mm (No. 8) sieve - 100 grams.

   b. Concrete sand or sands with 90% or more passing the 4.75 mm (No. 4) sieve - 500 grams.

   c. Pit-run (fine sample) - 1000 grams.

C. Test Procedure

1. Dry the sample to a constant mass and weigh to the nearest 0.5 gram.

2. Place the test sample, after being weighed and dried, in the wash pan and cover with water containing a sufficient amount of methanol or other wetting agent to aid in the separation of the finer materials.

3. Agitate the pan and its contents by a rotary motion so that the sample can be heard to scour the bottom of the wash pan.

4. After approximately ten seconds of agitation, permit the wash water to settle for exactly 15 seconds before decanting on the special 75 µm (No. 200) mesh wash sieve.

5. Repeat the above operation and continue until the wash water is clear.

6. Thoroughly rinse and wash back into the sample all of the material retained on the wash sieve. Allow it to settle again for 15 seconds, and drain as much water as possible by carefully pouring through the wash sieve. Rinse back into the sample again any material left on the sieve.

7. Dry the sample to a constant mass and weigh to within 0.1 percent of the mass of the sample.

D. Calculations

1. The loss in mass from the original dry mass is the amount of silt. Convert this loss in mass to percentage by dividing it by the original dry weight, and multiplying by 100.

$$\% \text{ Silt} = \frac{\text{Mass of Silt}}{\text{Original Dry Mass}} \text{ x } 100$$